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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/683,445	12/31/2001	Luca D'Ottone	LD01	4369

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EXAMINER

JASTRZAB, KRISANNE MARIE

ART UNIT	PAPER NUMBER
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1744

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/683,445

Applicant(s)

D'OTTONE, LUCA

Examiner

Krisanne Jastrzab

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 01/22/2002.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 13, "said enclosure" lacks proper antecedent basis because this claim has previously recited a "room" not an "enclosure". Also, the recitation of "said apparatus being capable of..." is found to be vague and indefinite because it improperly attempts to define the apparatus by itself. Correction is required.

With respect to claim 19, the recitation of "said apparatus being capable of..." is found to be vague and indefinite because it improperly attempts to define the apparatus by itself. Correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-4, 6, 8, 10-11, 13-17 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neill et al., U.S. patent No. 6,630,105 B1.

O'Neill et al., teach a method and apparatus for decontaminating chemical and biological agents by generating ozone with an ozone generator, mixing the ozone with water vapor and irradiating the mixture with UV radiation to generate hydroxyl radicals at concentrations on the order of 10^n molecules/cc, where n is 11. See column 2, lines 1-20, column 3, lines 1-20 and 35-65, column 4, lines 1-5, 18-22 and 35-40, column 5, lines 10-40.

O'Neill et al., clearly teach that the concentration of radicals generated is "on the order of", thus it would have been well within the purview of one of ordinary skill in the art to determine the appropriate concentration necessary for a given application, and it is held that those concentrations claimed by Applicant fall within those encompassed by O'Neill et al., statement "on the order of".

With respect to claims 15 and 19, the generation of UV light in given dose parameters to achieve optimum sterilization is well recognized and requires only routine experimentation to determine those parameters.

With respect to claim 8, the use of pump means for apply a reduced pressure to an enclosure to be treated is well recognized in the art, and as such it would have been

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obvious to one of ordinary skill in the art to apply a vacuum to the enclosure to facilitate the flow of the activated gas therethrough for thorough contact of all enclosure surfaces.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neill et al., as applied to claims 1-4, 6, 8, 10-11, 13-17 and 19-20 above, and further in view of Teague U.S. patent No. 5,783,242.

Teague teaches the known and expected efficacy of ozone and UV applications in killing *Bacillus anthracis*. See column 3, the table, and column 4, lines 50-68.

O'Neill et al., clearly recited the efficacy of the recited method and apparatus for decontaminating chemical and biological warfare agents and *Bacillus anthracis* is well recognized as such. In view of the teachings of Teague as well, it would have been obvious to one of ordinary skill in the art to apply the method and apparatus of O'Neill et al., to enclosures containing *Bacillus anthracis* because of its intrinsically recognized efficacy therefor.

Claims 5, 7, 12 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neill et al., as applied to claims 1-4, 6, 8, 10-11, 13-17 and 19-20 above, and further in view of Lincoln et al., U.S. patent No. 5,953,525.

Lincoln et al., teach an air treatment method and apparatus for reduction of impurities therein by the application of activated air. The air is first activated by UV radiation to form ozone, then with continued irradiation and the addition of oxidizable constituents such as nitrogen dioxide, hydroxyl radicals form in the activated air. The relative humidity is maintained at least at 25%.

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It would have been well within the purview of one of ordinary skill in the art to introduce oxidizable constituents into the apparatus of O'Neill et al., as taught in Lincoln et al., because of their recognize efficacy in the formation of radicals and the decomposition of gaseous contaminants.

With respect to claims 6 and 18, the references are silent as to the temperature during the application of the method, however, it would have been obvious to one of ordinary skill in the art, requiring only routine experimentation, to determine those temperatures appropriate to the method without presenting detrimental secondary effects.

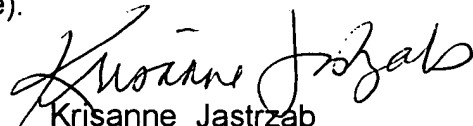
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krisanne Jastrzab whose telephone number is 571-272-1279. The examiner can normally be reached on Mon.-Wed. 6:30am-4:00pm and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Kim can be reached on 571-272-1142. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Krisanne Jastrzab
Primary Examiner
Art Unit 1744

March 21, 2005